



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,979	05/23/2001	Gayle W. Miller	98-197/1D	2179

24319 7590 08/20/2003

LSI LOGIC CORPORATION  
1621 BARBER LANE  
MS: D-106 LEGAL  
MILPITAS, CA 95035

13  
EXAMINER

LUND, JEFFRIE ROBERT

ART UNIT PAPER NUMBER

1763

DATE MAILED: 08/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

FILE COPY

**Office Action Summary**

Application No.

09/863,979

Applicant(s)

MILLER ET AL.

Examiner

Jeffrie R. Lund

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 26-29, and 32-37 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mandal et al, US Patent 5,670,210.

Mandal et al teaches a housing 14 that includes an opening to allow a substrate to pass into the chamber; a rotating chuck 12 for holding and spinning the substrate; a dispersing head 54 to deposit a precursor on the substrate; and a vapor dispense head 20. The showerhead is connected to a catalyst source 34, and a gas mixture source 26 containing nitrogen and water vapor (column 4 line 61 through column 5 line 32). (Figures 1 and 2, and throughout the specification)

The specific substance supplied to an apparatus, the specific substrate processed in an apparatus, the specific carrier gas to vapor ratio, and operating pressures are an intended use of the apparatus. Mandal et al is inherently capable of delivering any substance (solvent or catalyst) to the showerhead, which evenly distributes the substance over the substrate, can be used to process substrates for an integrated circuit or a chemical sensor (or any other device), supply a specific vapor ratio and operate at a specific pressure.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mandal et al in view of Santini, US Patent 4,696,729.

Mandal et al was discussed above.

Mandal et al does not teach that the showerhead is a mesh unit made out of polytetrafluoroethylene materials.

Santini teaches a showerhead that is made out of a perforated plate and an equivalent embodiment in which the showerhead is a polytetrafluoroethylene screen (mesh).

The motivation for using the mesh showerhead of Santini in the apparatus of Mandal et al is to supply a specific type of showerhead as required by Mandal et al but only generically described by Mandal et al.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the showerhead of Santini in the apparatus of Mandal et al.

***Response to Arguments***

5. Applicant's arguments found in the amendment filed June 10, 2003, (see page 4 and 5) with respect to Batchelder have been fully considered and are persuasive. The rejections of claims 26-31 over Batchelder have been withdrawn.

6. Applicant's arguments, directed to Mandal et al filed June 10, 2003, have been fully considered but they are not persuasive.

In regard to the argument that Mandal et al does not teach a vapor dispense head that is configured to receive and introduce a catalyst and a gas mixture, the examiner disagrees. As was discussed above Mandal et al teaches a dispense head that is configured to receive and introduce a catalyst (feed line 28) and to receive and introduce a gas mixture (feed line 26) of figure 1.

***Conclusion***

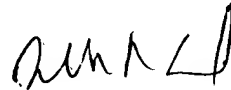
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art teaches the technological background of the invention. The cited art contains patents that could be used to reject the claims under 35 USC § 102 or 103. These rejections have not been made because they do not provide any additional or different teachings, and if they were applied, would have resulted in an undue multiplication of references. (See MPEP 707.07(g))

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (703) 308-1796. The examiner can normally be reached on Monday-Thursday (6:30 am-6:00pm).

Art Unit: 1763

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeffrie R. Lund  
Primary Examiner  
Art Unit 1763

JRL  
August 14, 2003